

$1 \times 1 \times 1$

Which model has the largest ratio? ~~$8 \times 8 \times 8$~~

To maintain life, and carry-out cellular functions, materials must be able to move into and out of the cell. Also, material needs to be able to move within the cell.

What might be the advantage of having a large surface area?

Surface area = cell's ability to get materials in or eliminate waste

Cell membrane \rightarrow semi-permeable

What might be the disadvantage of having a large volume?

Volume = how much food^{or material} in from outside
= how much waste cell has to get rid of

★ As a cell gets larger, the time will come when surface area is not enough to meet demands of cell's volume; stops growth